

REMARKS

Independent claims 1 and 2 have been amended to incorporate the features of claim 13, which has been canceled. Applicant respectfully requests entry of those amendments.

In the Office action, the previous rejections of the claims were maintained as follows:

- (1) Claims 1-5 and 12 were rejected as anticipated by U.S. Patent No. 6,083,775 (Huang et al.).
- (2) Claims 6-9 and 11 were rejected as unpatentable over the Huang et al. patent in view of U.S. Patent No. 5,675,177 (Abys et al.).
- (3) Claim 10 was rejected as unpatentable over the Huang et al. patent in view of U.S. Patent No. 3,541,379 (Holden).
- (4) Claim 13 was rejected as unpatentable over the Huang et al. patent a\in view of Applicant's admitted prior art.

The Examiner's response to applicant's arguments submitted in its previous reply are set forth at pages 6-9 of the Office action. In the following paragraphs, applicant addresses those additional remarks and explains why the claim rejections should be withdrawn.

The Huang et al. patent does not incorporation by reference the entire disclosure of the Freyman et al. patent

The Office action asserts that U.S. Patent No. 5,635,671 (Freyman et al.) is "incorporated by reference" into the Huang et al. patent, and implies that the entire disclosure of the Freyman et al. patent is, therefore, effectively disclosed in the Huang et al. patent. That is incorrect and misleading.

Although the Huang et al. patent does refer to the Freyman et al. patent (*see, e.g.*, col. 2, line 65 – col. 3, line 24; col. 4, lines 65-67; FIG. 7), the Huang et al. patent does not incorporate

the entire disclosure of the Freyman et al. patent by reference. "Incorporation by reference" is a legal term of art. Simply mentioning, and even discussing, another reference does not amount to "incorporation by reference." As explained by the Court of Appeals for the Federal Circuit:

To incorporate material by reference, the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents. *See In re Seversky*, 474 F.2d 671, 674, 177 USPQ 144, 146 (CCPA 1973) (providing that incorporation by reference requires a statement "clearly identifying the subject matter which is incorporated and where it is to be found"); *In re Saunders*, 58 C.C.P.A. 1316, 444 F.2d 599, 602-03, 170 USPQ 213, 216-17 (CCPA 1971) (reasoning that a rejection for anticipation is appropriate only if one reference "expressly incorporates a particular part" of another reference); *National Latex Prods. Co. v. Sun Rubber Co.*, 274 F.2d 224, 230, 123 USPQ 279, 283 (6th Cir.1959) (requiring a specific reference to material in an earlier application in order have that material considered part of a later application); *cf. Lund*, 376 F.2d at 989, 153 USPQ at 631 (holding that a one sentence reference to an abandoned application is not sufficient to incorporate material from the abandoned application into a new application).

*Advanced Display Systems, Inc. v. Kent State University*, 212 F.3d 1272, 1282-3 (Fed. Cir. 2000). Not only does the Huang et al. patent not incorporate the Freyman et al. patent by reference, but, instead, the Huang et al. patent criticizes the techniques disclosed by the Freyman et al. patent (col. 3, line 7-24).

The Freyman et al. patent does not disclose "forming separation grooves in a conductive foil"

To the extent the Office action relies on the disclosure of the Freyman et al. patent as a basis for rejecting the claims, that reliance is misplaced.

The Office action relies on the Freyman et al. patent's disclosure of an electrically conductive material (e.g., copper) formed on the substrates 601-607 (col. 7, lines 19-20) and alleges that the conductive material corresponds to the claimed "conductive foil." The Office

action also alleges that the slots 616 in the substrates (*see* FIG. 6A) correspond to the claimed “separation grooves” in the conductive foil.

Even if the slots 616 were considered “separation grooves,” those slots are formed in the substrates 601-607 before the conductive material (copper) is provided on the substrates (*see* FIG. 5A and col. 6, line 42 – col. 7, line 26). The conductive material (copper) is provided on substrates 601-607 in which the slots 616 already are present. Therefore, the slots 616 are not formed “in” the conductive material (copper).

In summary, even if the slots 616 were considered “separation grooves” and the conductive material (copper) were considered a “conductive foil,” the disclosure of the Freyman et al. patent does not satisfy the limitation of “forming separation grooves in a conductive foil” as recited in pending claims 1 and 2. Instead, the conductive material (copper) is provided on a substrate that already has slots 616.

The Huang et al. patent does not describe “the invention” as required for a single reference to anticipate under 35 U.S.C. § 102(b)

Applicant previously noted that the rejection of claims 1 and 2 (as well as other claims) is based on a combination of features taken from three completely different embodiments as follows:

- (1) FIG. 8, which corresponds to a process apparently disclosed in U.S. Patent No. 5,542,171 (*see* Huang et al., col. 1, lines 50-54);
- (2) FIG. 7, which, as discussed above, corresponds to FIG. 6C of U.S. Patent No. 5,635,671 (Freyman et al.); and
- (3) FIG. 6, which shows a method of the alleged invention of the Huang et al. patent.

Applicant previously submitted that there is no basis for combining those different embodiments to obtain the subject matter of the pending claims, particularly because the Huang

et al. patent itself criticizes the 5,542,171 patent and the 5,635,671 patent (*see* Huang et al. patent, col. 2, lines 26-27; col. 3, lines 7-8).

In the present Office action, the Examiner refers (at page 7, par. 2) to section 102 of the U.S. patent statute and alleges that, if the constituent parts of the claimed invention are described *somewhere* in the prior art publication, then the claimed subject matter is not patentable. Thus, the Office's approach appears to be to pick and choose parts from various embodiments in the Huang et al. patent and then to assemble them into the claimed invention. That is an incorrect statement of the law and an improper approach.

The statute applied by the Office, 35 U.S.C. § 102(b), states in pertinent part that:

A person shall be entitled to a patent unless . . . (b) the *invention* was . . . described in a printed publication . . . ”

Thus, according to section 102, the prior art publication must describe “the invention” – *i.e.*, the combination of claimed features must be described in a single embodiment. The statute does not say that:

A person shall be entitled to a patent unless . . . (b) the *constituent parts of the invention* were . . . described in a printed publication . . . ”

The Huang et al. patent clearly does not describe the combination of features in any of the pending claims. At most, the Huang et al. patent discloses various constituent parts of the invention. Those parts are scattered among numerous embodiments, each of which shows some, but not all, of the constituent parts recited in the pending claims. No single embodiment shows all the features recited in any of the pending claims. In summary, the Huang et al. patent does not disclose the *invention*, as recited in any of the pending claims. Therefore, the statutory requirement that the *invention* be described is not satisfied.

Furthermore, there would have been no motivation for a person of ordinary skill to combine the different embodiments because some of those embodiments (*e.g.*, FIGS. 7 and 8) relate to descriptions taken from other patents which are heavily criticized by the Huang et al. patent (*see* Huang et al. patent, col. 2, lines 26-27; col. 3, lines 7-8). One of ordinary skill would not have been motivated to use the techniques that are criticized (FIGS. 7 and 8) in combination with the alleged invention (FIG. 6) of the Huang et al. patent.

The Huang et al. patent does not disclose performing the plasma irradiation before mounting the circuit element

With respect to dependent claim 3, the Office action alleges (at page 8, par. 3) that the technique disclosed by FIGS. 6 and 8 of the Huang et al. patent could be repeated such that the plasma irradiation would be performed before the semiconductor chip is attached to the substrate. Applicant respectfully disagrees.

First, the Huang et al. patent repeatedly emphasizes that the plasma irradiation is performed after the semiconductor chip is mounted on the substrate. (FIGS. 6 and 8; Abstract, lines 7-9; col. 5, lines 36-44; col. 1, lines 50-60) There is absolutely no suggestion of performing the plasma irradiation before the chip is attached to the substrate.

Furthermore, one of ordinary skill would have understood that, according to the Huang et al. patent, multiple substrate units on a single substrate strip 1 would be processed at the same time for mass production (col. 5, lines 6-11), not sequentially. If the process flow of FIGS. 6 or 8 were repeated, it would be repeated in its entirety with respect to a *different* substrate strip 1. Therefore, there is no basis for alleging that the plasma irradiation would be performed before the chip is attached to the substrate.

There is no “clear and particular” motivation to combine the references to obtain the claimed subject matter

Regarding claim 13 (the features of which have been incorporated into claims 1 and 2) and claim 14, the alleged motivation for combining the admitted prior art in the background

section of the pending specification and the Huang et al. patent is misplaced and would not lead to the claimed invention. The statements in the Office action are precisely the type of improper hindsight that the Federal Circuit has warned against.

In particular, a person of ordinary skill would not have been motivated to eliminate the rear surface of the substrate 1 to expose the encapsulant 5 (*see* FIG. 1 of the Huang et al. patent). The techniques disclosed in the background section of the pending application address completely different problems from those of the Huang et al. patent.

As explained by the Court of Appeals for the Federal Circuit, the showing of the motivation to combine must be “clear and particular.” *See, e.g., C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998); *Teleflex, Inc. v. Ficosa North Am. Corp.*, 63 USPQ2d 1374 at 1387 (Fed. Cir. 2002). In the present case, there is simply no “clear and particular” motivation to combine the applicant’s admitted prior art with the Huang et al. patent to obtain the subject matter of the pending claims.

### Conclusion

In view of the foregoing remarks as well as the remarks in the previous reply, applicant respectfully requests reconsideration and withdrawal of the rejections of the claims.

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Respectfully submitted,

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